

C/O. SUSAN HANLEY

Access DB# 88908

# SEARCH REQUEST FORM

Scientific and Technical Information Center

C/O Jan Delaval

Requester's Full Name: Maury Audet Examiner #: 79808

Date: 3/19/03

Art Unit: 1654

Phone Number: 305-5039

Serial Number: 09/876,304

Mail Box and Bldg/Room Location: 11D13

Results Format Preferred: PAPER

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention:

Point of Contact:

Inventors (please provide full names):

Susan Hanley  
Technical Info. Specialist  
CM1 6B05 Tel: 305-4053

Earliest Priority Filing Date:

4/29/98

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search: 1) Please search the 8 compounds of  
CL. 23 (and 45 - SAME).

2) ~~find~~ in a composition w/ other compounds/  
molecules

3) If time, please search Cl. 23 compounds  
in combination (1 or >), as per Cl. 21  
(But if indiv. compounds are found alone or in  
combin., assume 'mixtures' aren't out there).

TX - MAURY LI

## STAFF USE ONLY

Searcher: Hanley

Searcher Phone #:

Searcher Location:

Date Searcher Picked Up: 3/13

Date Completed: 3/19

Searcher Prep & Review Time:

Clerical Prep Time:

Online Time:

PTO-1590 (8-01)

## Type of Search

NA Sequence (#)

AA Sequence (#)

Structure (#)

Bibliographic

Litigation

Fulltext

Patent Family

Other

## Vendors and cost where applicable

STN

Dialog

Questel/Orbit

Dr. Link

Lexis/Nexis

Sequence Systems

WWW/Internet

Other (specify)

=&gt; d his

(FILE 'HOME' ENTERED AT 11:34:49 ON 19 MAR 2003)

FILE 'HCAPLUS' ENTERED AT 11:35:03 ON 19 MAR 2003

L1 311 S WARNER I?/AU  
 L2 27 S BILLIOT E?/AU  
 L3 88 S SHAMSI S?/AU  
 E THIBODE/AU  
 L4 10 S E96-98  
 L5 359 S L1-4  
 L6 70 S L5 AND MICELL?  
 L7 1 S L6 AND OLIGOPEPTID? *← cite for inventors*  
 SELECT RN L7 1

FILE 'REGISTRY' ENTERED AT 11:36:55 ON 19 MAR 2003

L8 10 S E109-118 *10 cpds in L7 cite ✓*  
 L9 8 S L8 NOT RSD/FA *8 cpds w/ no rings - (claim 23 cpds (polymers))*  
 L10 2 S " D-LEUCINE, N-(1-OXO-10-UNDECENYL)-D-LEUCYL-"

FILE 'HCAPLUS' ENTERED AT 11:39:17 ON 19 MAR 2003

L11 1 S L7 AND L8 *1 cite inventor search, 10 cpds displayed*

FILE 'REGISTRY' ENTERED AT 11:41:32 ON 19 MAR 2003

FILE 'HCAPLUS' ENTERED AT 11:41:36 ON 19 MAR 2003

L12 10 S L9 *10 cites total for claim 23 compounds (polymers)*

FILE 'REGISTRY' ENTERED AT 11:42:52 ON 19 MAR 2003

L13 1 S 204689-87-2  
 L14 1 S 204689-88-3  
 L15 1 S 204689-89-4  
 L16 1 S 243843-87-0  
 L17 1 S 352711-87-6  
 L18 1 S 352711-89-8  
 L19 1 S 352711-91-2  
 L20 1 S 192448-34-3

*claim 45 cpds (non-polymers)  
 (8) 1 each; ✓ out who to*

FILE 'HCAPLUS' ENTERED AT 11:51:54 ON 19 MAR 2003

L21 6 S L13-20  
 L22 9 S L12 NOT L11 *9 cites for claim 23 (polymers) (subtracted out inventor)*  
 L23 6 S L21 NOT L11 *6 cites for claim 45 cpds ✓*

FILE 'CAOLD' ENTERED AT 11:54:30 ON 19 MAR 2003

L24 0 S L13-20  
 L25 0 S L9  
*> no hits in caold*

=&gt; d ibib abs hitstr ind

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:576060 HCAPLUS

DOCUMENT NUMBER: 135:153248

TITLE: Polymerized oligopeptide-surfactant chiral micelles

INVENTOR(S): Warner, Isiah M.; Billiot, Eugene J.  
; Shamsi, Shahab A.; Thibodeaux, Stefan J.

PATENT ASSIGNEE(S): Board of Supervisors of Louisiana State University and Agricultural and Mechanical College, USA

SOURCE: U.S., 22 pp.  
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6270640	B1	20010807	US 1999-296351	19990422
US 2001051703	A1	20011213	US 2001-876304	20010607
PRIORITY APPLN. INFO.:			US 1998-126431P	P 19980429
			US 1999-296351	A3 19990422

AB Chiral sepn. can be enhanced through the use of polymd. dipeptide-surfactant or oligopeptide-surfactant chiral micelles. Because polymd. micelles eliminate much of the complex dynamic behavior assocd. with conventional micelles, polymd. chiral micelles have stronger chiral recognition properties than do otherwise-identical, "conventional" or non-polymd. chiral micelles. Recovery of chiral ligands from polymd. chiral micelles is often easier, as the chiral ligands may typically be recovered by simple extn. with an appropriate org. solvent. By contrast, recovering the solute from a conventional, non-polymd. micellar medium by extn. with an org. solvent frequently results in the formation of troublesome emulsion systems. Polymd. chiral micelle systems are therefore beneficial in both preparative-scale and process-scale sepn. Polymd. chiral micelles have no crit. micelle concn., allowing lower concns. to be used in micellar electrokinetic capillary chromatog., which in turn reduces the otherwise deleterious heat that can be generated. Many polymd. dipeptide-surfactant or oligopeptide-surfactant chiral micelles have superior sepn. properties as compared to polymd. amino acid-surfactant chiral micelles. Poly(sodium N-undecylenyl-L-valine-L-valine) was used in electrokinetic chromatog.

IT 192448-35-4P 204689-90-7P 204689-91-8P  
204689-92-9P 243843-88-1P 352711-88-7P  
352711-90-1P 352711-92-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polymd. oligopeptide-surfactant chiral micelles)

RN 192448-35-4 HCAPLUS

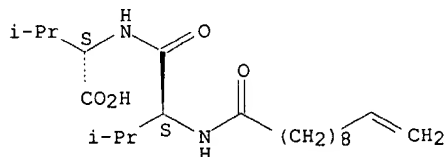
CN L-Valine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt, homopolymèr (9CI) (CA INDEX NAME)

CM 1

CRN 192448-34-3

CMF C21 H38 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



● Na

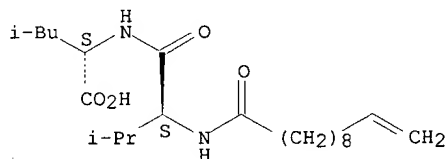
RN 204689-90-7 HCAPLUS  
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 204689-87-2

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

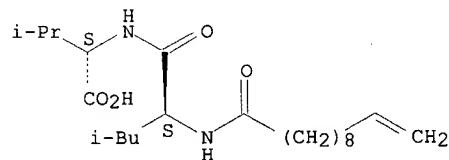
RN 204689-91-8 HCAPLUS  
CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 204689-88-3

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

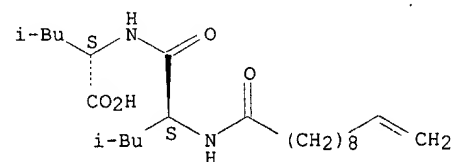
RN 204689-92-9 HCAPLUS  
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 204689-89-4

CMF C23 H42 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



● Na

RN 243843-88-1 HCAPLUS  
CN D-Leucine, N-(1-oxo-10-undecenyl)-D-leucyl-, monosodium salt, homopolymer

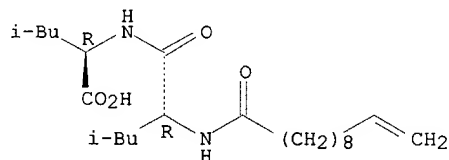
(9CI) (CA INDEX NAME)

CM 1

CRN 243843-87-0

CMF C23 H42 N2 O4 . Na

Absolute stereochemistry.



● Na

RN 352711-88-7 HCAPLUS

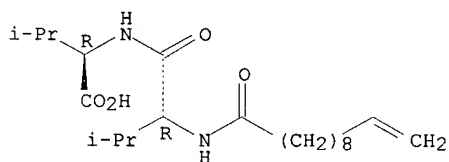
CN D-Valine, N-(1-oxo-10-undecenyl)-D-valyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 352711-87-6

CMF C21 H38 N2 O4 . Na

Absolute stereochemistry.



● Na

RN 352711-90-1 HCAPLUS

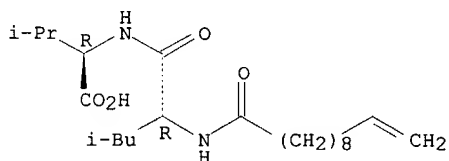
CN D-Valine, N-(1-oxo-10-undecenyl)-D-leucyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 352711-89-8

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

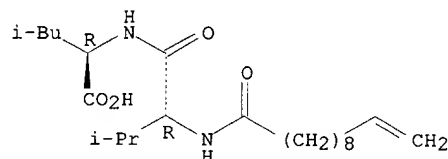
RN 352711-92-3 HCAPLUS

CN D-Leucine, N-(1-oxo-10-undecenyl)-D-valyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

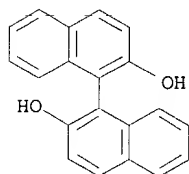
CRN 352711-91-2  
CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.

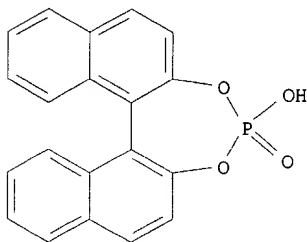


● Na

IT 602-09-5, (.-.)1,1'-Bi-2-naphthol 35193-63-6  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(polymd. **oligopeptide**-surfactant chiral **micelles**)  
RN 602-09-5 HCAPLUS  
CN [1,1'-Binaphthalene]-2,2'-diol (8CI, 9CI) (CA INDEX NAME)



RN 35193-63-6 HCAPLUS  
CN Dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 4-hydroxy-, 4-oxide (9CI)  
(CA INDEX NAME)



IC ICM G01N027-26  
ICS B01D011-00; B01D011-04; B01D005-08  
NCL 204451000  
CC 35-4 (Chemistry of Synthetic High Polymers)  
ST polymd **oligopeptide** surfactant chiral **micelle**  
enantiomer sepn  
IT Capillary electrophoresis  
Liquid chromatography  
(polymd. **oligopeptide**-surfactant chiral **micelles**)  
IT 192448-35-4P 204689-90-7P 204689-91-8P  
204689-92-9P 243843-88-1P 352711-88-7P  
352711-90-1P 352711-92-3P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polymd. **oligopeptide**-surfactant chiral **micelles**)  
IT 602-09-5, (.-.)1,1'-Bi-2-naphthol 35193-63-6  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(polymd. **oligopeptide**-surfactant chiral **micelles**)  
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AUDET 09/876,304

=&gt; d ibib abs hitstr 1

L22 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003 1626 HCAPLUS

TITLE: Polysodium N-Undecanoyl-L-leucylvalinate: A Versatile Chiral Selector for Micellar Electrokinetic Chromatography

AUTHOR(S): Shamsi, Shahab A.; Valle, Bertha C.; Billiot, Fereshteh; Warner, Isiah M.

CORPORATE SOURCE: Department of Chemistry, Louisiana State University, Baton Rouge, LA, 70803, USA

SOURCE: Analytical Chemistry (2003), 75(3), 379-387  
CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dipeptide micelle polymers are a new class of polymeric surfactants of which the polysodium undecanoyl-L-leucylvalinate (poly-L-SULV) is a broadly applicable chiral selector for micellar electrokinetic chromatog. This neg. charged dipeptide micelle polymer is a high mol. wt. compd. with large countercurrent mobility, zero crit. micelle concn., low aggregation no., and high soly. in water or water-org. solvents. In an extensive chiral screening program, enantiosepn. of 75 racemic compds. was tested with poly-L-SULV as chiral pseudostationary phase in neutral pH and basic pH background electrolytes. A total of 58 out of 75 racemic compds. could be resolved after choosing an appropriate concn. of poly-L-SULV. Although anionic chiral analytes are difficult to resolve using poly-L-SULV, the percent success rate for chiral resoln. of cationic (77%) and neutral (85%) racemates was very high. Aspects regarding electrostatic, steric, hydrophobic, and hydrogen-bonding interactions of this dipeptide micelle polymer with various classes of chiral analytes are discussed.

IT 204689-91-8P

RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified);  
SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation);  
USES (Uses)

(poly(sodium undecanoylleucylvalinate) as versatile chiral selector for micellar electrokinetic chromatog.)

RN 204689-91-8 HCAPLUS

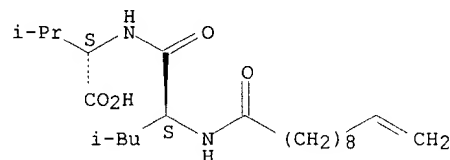
CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 204689-88-3

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

REFERENCE COUNT:

28

THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



=&gt; d ibib abs hitstr 2

L22 ANSWER (2) OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: (2002)154624 HCAPLUS

DOCUMENT NUMBER: 137:118753

TITLE: Depth of penetration of binaphthyl derivatives into the micellar core of sodium undecenoyl leucyl-leucinate surfactants

AUTHOR(S): Haddadian Billiot, Feresteh; Billiot, Eugene J.; Warner, Isiah M.

CORPORATE SOURCE: Department of Physical and Life Science, Texas A&amp;M University-Corpus Christi, Corpus Christi, TX, 78412, USA

SOURCE: Journal of Chromatography, A (2002), 950(1-2), 233-239  
CODEN: JCRAEY; ISSN: 0021-9673

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two different diastereomeric forms of sodium N-undecanoyl leucyl-leucinate (SULL) (both L,L and L,D) were used to examine the role of depth of penetration of chiral analytes into the micellar core of polymeric and monomeric surfactants on enantioselectivity. Chiral sepn. of three binaphthyl derivs., i.e. (+-)-1,1'-bi-naphthyl-2,2'-diamine (BNA), (+-)-1,1'-bi-2-naphthol (BOH), and (+-)-1,1'-binaphthyl-2,2'-dihydrogen phosphate (BNP), were studied. Chromatog. results suggest that BNP interacts approx. the same with both the C- and N-terminal amino acid of poly SULL, while the preferential site of interaction of this analyte with the monomeric form of SULL (mono SULL) is at the C-terminal amino acid. This indicates that BNP enantiomers penetrate deeper into the micellar core of the poly SULL than that of the mono SULL. Varying the temp. resulted in a change in the depth of penetration of BNP into the micellar core of the poly SULL. However, the enantiomers of BNA and BOH always interact preferentially with the N-terminal amino acid of SULL surfactants (both polymer and monomer), independent of the temps. studied.

IT 204689-92-9

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(depth of penetration of binaphthyl derivs. into the micellar core of sodium undecenoyl leucyl-leucinate surfactants)

RN 204689-92-9 HCAPLUS

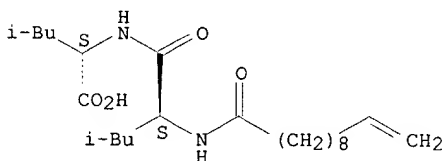
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 204689-89-4

CMF C23 H42 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



● Na

REFERENCE COUNT:

16

THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; d ibib abs hitstr 3

L22 ANSWER (3) OF 9 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2000358839 HCAPLUS  
 DOCUMENT NUMBER: 133.106601

New 8

TITLE: Chiral separation with dipeptide-terminated polymeric surfactants: the effect of an extra heteroatom on the polar head group  
 AUTHOR(S): Haynes, Judson L., III; Billiot, Eugene J.; Yarabe, Hyacinthe H.; Warner, Isiah M.; Shamsi, Shahab A.  
 CORPORATE SOURCE: Department of Chemistry, Louisiana State University, Baton Rouge, LA, 70803, USA  
 SOURCE: Electrophoresis (2000), 21(8), 1597-1605  
 CODEN: ELCTDN; ISSN: 0173-0835  
 PUBLISHER: Wiley-VCH Verlag GmbH  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Chiral recognition of two binaphthyl derivs. and three benzodiazepines was studied using polymeric surfactants in electrokinetic chromatog. The four specific dipeptide terminated (multichiral) micelle polymers were prepd. These include poly(sodium-N-undecanoyl-L-alanyl leucinate) (poly L-SUAL), poly(sodium-N-undecanoyl-L-valyl leucinate) (poly L-SUVL), poly(sodium-N-undecanoyl-L-seryl leucinate) (poly L-SUSL), and poly(sodium-N-undecanoyl-L-threonyl leucinate) (poly L-SUTL). The physicochem. properties (crit. micelle concn. and sp. rotation) of the polymers were studied and the mol. wt. of dipeptide-terminated micelle polymers were detd. using anal. ultracentrifugation. The dipeptide-terminated micelle polymers were designed to study the effect of the extra heteroatom at the polar head group of the micelle polymer (i.e., poly L-SUSL compared to poly L-SUAL and poly L-SUTL compared to poly L-SUVL) on the enantiomeric sepn. of binaphthyl derivs. and benzodiazepines. The synergistic effect of three chiral centers in (poly L-SUTL) provided improved resolu. over that of two chiral centered dipeptide-terminated micelle polymer in the case of (+-)-temazepam, (+-)-oxazepam, (+-)-binaphthol, and (+-)-binaphthol phosphate. The chiral recognition mechanisms in these cases were addnl. controlled by the presence of the extra heteroatom located on the polar head group of the micelle polymers.

IT 204689-90-7P

RL: ARG (Analytical reagent use); PNU (Preparation, unclassified); PRP (Properties); ANST (Analytical study); PREP (Preparation); USES (Uses) (prepn. and crit. micelle concn. and sp. rotation of dipeptide-terminated polymer surfactants and performance in chiral seps.)

RN 204689-90-7 HCAPLUS

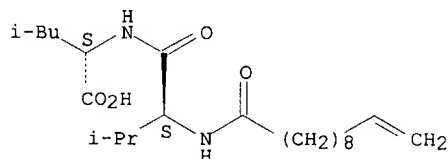
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 204689-87-2

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

REFERENCE COUNT:

23

THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; d ibib abs hitstr 4

L22 ANSWER(4) OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: (2000) 83984 HCAPLUS

DOCUMENT NUMBER: 1321293993

TITLE: NMR study of the interaction of monomeric and polymeric chiral surfactants with (R)- and (S)-1,1'-binaphthyl-2,2'-diyl hydrogen phosphate

AUTHOR(S): Rugutt, Joseph K.; Billiot, Eugene; Warner, Isiah M.

CORPORATE SOURCE: Department of Chemistry, Massachusetts College of Liberal Arts, North Adams, MA, 01247-4100, USA

SOURCE: Langmuir (2000), 16(7), 3022-3029  
CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Chiral discrimination of enantiomers of 1,1'-binaphthyl-2,2'-diyl hydrogen phosphate (BNDHP) by monomeric chiral surfactants (CS), sodium N-undecylenyl-L-valine-L-leucine and sodium N-undecylenyl-L-leucine-L-valine, and related polymers is investigated by high-field one (1D)- and two-dimensional (2D) NMR spectroscopy. A general property of the high-resoln. 1H NMR spectra of monomeric CS in 90% H2O/10% D2O is the appearance of downfield well-resolved chem. shift signals corresponding to the alpha (.alpha.H) protons of valine (Val.alpha.H) and leucine (Leu.alpha.H) amino acid residues. The remaining skeletal protons resonate in the region 0.5-2.5 ppm, giving rise to an envelope of poorly resolved chem. shifts. The 1H NMR signals of (R)- and (S)-BNDHP were enantiomerically sepd. into six sets of peaks in the presence of CS. The conformational anal. by means of nuclear Overhauser effect spectroscopy expts. indicates that the CS mols. adopt folded conformations in aq. soln. The multiple interactions of (S)-BNDHP and CS obtained from intermol. rotating frame Overhauser effect NMR spectroscopy is direct evidence on the mechanism of chiral recognition in aq. media.

IT 204689-90-7P 204689-91-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(NMR study of chiral recognition between binaphthyldiyl hydrogen phosphate and chiral surfactants)

RN 204689-90-7 HCAPLUS

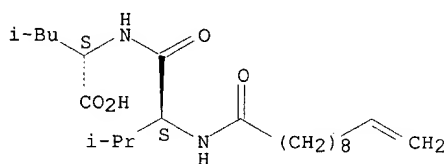
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 204689-87-2

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

RN 204689-91-8 HCAPLUS

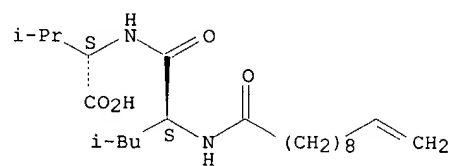
CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 204689-88-3

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

REFERENCE COUNT:

43

THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; d ibib abs hitstr 5

L22 ANSWER (5) OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999-641302 HCAPLUS

DOCUMENT NUMBER: 1311345909

TITLE: Chiral separations using polymeric dipeptide surfactants: effect of number of chiral centers and steric factors

AUTHOR(S): Haddadian, F.; Billiot, E. J.; Shamsi, S. A.; Warner, I. M.

CORPORATE SOURCE: Department of Chemistry, Louisiana State University, Baton Rouge, LA, USA

SOURCE: Journal of Chromatography, A (1999), 858(2), 219-227  
CODEN: JCRAEY; ISSN: 0021-9673

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two polymeric dipeptide chiral surfactants (PDCSSs), poly sodium N-undecanoyl isoleucyl-valinate (SUILV) with three chiral centers and poly sodium N-undecanoyl leucyl-valinate (SULV) with two chiral centers, were evaluated and compared as chiral pseudo-stationary phases in electrokinetic capillary chromatog. The performance of these surfactants, in terms of enantioselectivity was examd. using anionic, cationic and neutral analytes. Analyses of the data suggest that the enantiomeric resols. of the analytes with these two PDCSSs are dependent upon steric factors rather than no. of stereogenic centers.

IT 204689-91-8P

RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified);  
SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation);  
USES (Uses)

(chiral sepns. by electrokinetic capillary chromatog. using polymeric dipeptide surfactants)

RN 204689-91-8 HCAPLUS

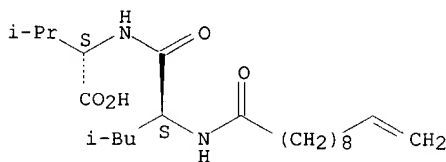
CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 204689-88-3

CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



● Na

REFERENCE COUNT:

29

THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; d ibib abs hitstr 6

L22 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:509605 HCAPLUS

DOCUMENT NUMBER: 131:237284

TITLE: Evaluating chiral separation interactions by use of diastereomeric polymeric dipeptide surfactants

AUTHOR(S): Billiot, Eugene; Thibodeaux, Stefan; Shamsi, Shahab; Warner, Isiah M.

CORPORATE SOURCE: Department of Chemistry, Louisiana State University, Baton Rouge, LA, 70803, USA

SOURCE: Analytical Chemistry (1999), 71(18), 4044-4049

CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Poly sodium N-undecyl leucine-leucine (poly SULL) was used as a diagnostic tool to study chiral mol. interactions via electrokinetic chromatog. (EKC). Poly SULL has two chiral centers which are defined by two asym. carbons. Each chiral center of poly SULL can have two possible configurations (D or L). Consequently, four different optical configurations are possible within the surfactant mol. (L-L, D-D, L-D, and D-L). Five chiral analytes of various charge states and hydrophobicities were used to study the role of electrostatic interactions and hydrophobicity on chiral recognition with polymeric dipeptide surfactants. These studies lead to a proposed hypothesis for interaction of the analytes with dipeptide surfactants. The hypothesis was tested and the contribution of the double chiral centers to this interaction was evaluated using two dipeptide surfactants in which one chiral amino acid is replaced by an achiral amino acid glycine, i.e., poly sodium N-undecyl L-leucine-glycine (poly L-SULG) and poly sodium N-undecyl L-glycine-leucine (poly L-SUGL). The results reported here provide new insights into the mechanism for chiral recognition of select chiral analytes using polymeric chiral surfactants.

IT 204689-92-9 243843-88-1

RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified);

PRP (Properties); ANST (Analytical study); USES (Uses)

(chiral sepn. by micellar electrokinetic chromatog. using diastereomeric polymeric dipeptide surfactants)

RN 204689-92-9 HCAPLUS

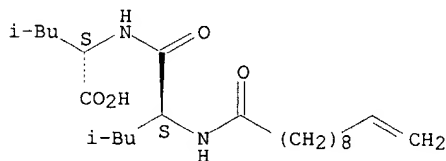
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 204689-89-4

CMF C23 H42 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



● Na

RN 243843-88-1 HCAPLUS

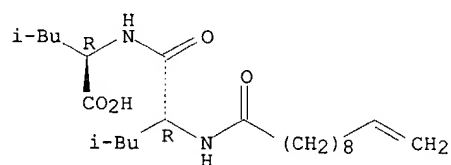
CN D-Leucine, N-(1-oxo-10-undecenyl)-D-leucyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 243843-87-0

CMF C23 H42 N2 O4 . Na

Absolute stereochemistry.



● Na

REFERENCE COUNT:

33

THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; d ibib abs hitstr 7

L22 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:71508 HCAPLUS

DOCUMENT NUMBER: 130-209966

TITLE: Synthesis of polymerized N-undecylenyl-L-amino acid and N-undecylenyl-L-peptide derivatives

AUTHOR(S): Macossay, Javier; Shamsi, Shabab A.; Warner, Isiah M.

CORPORATE SOURCE: Chemistry Department, Louisiana State University, Baton Rouge, LA, 70803, USA

SOURCE: Tetrahedron Letters (1999), 40(4), 577-580

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Micelle-forming polyamd. N-Undecylenyl-L-amino acid and N-Undecylenyl-L-peptide derivs. H<sub>2</sub>C:CH(CH<sub>2</sub>)<sub>8</sub>CO-X-OH (X = Ala, Val, Leu, Ile, Ala-Ala, Val-Val, Leu-Leu) have been obtained. These compds. are effective as pseudostationary phases in electrokinetic capillary electrophoresis for resoln. of racemic binaphthyl derivs. Synthetic procedures are described in detail, as well as preliminary anal. data comparing amino acid derivs., and amino acid derivs. with peptide derivs.

IT 192448-35-4P 204689-92-9P

RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP

(Preparation); USES (Uses)

(prepn. of polyamd. N-undecenoylamino acids and -peptides as pseudostationary phases in electrokinetic capillary electrophoresis for racemate resoln.)

RN 192448-35-4 HCAPLUS

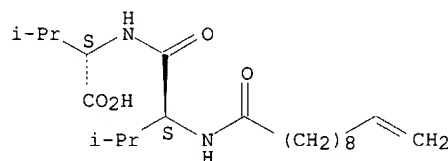
CN L-Valine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 192448-34-3

CMF C21 H38 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



● Na

RN 204689-92-9 HCAPLUS

CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

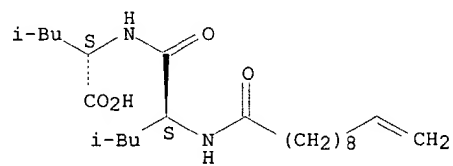
CM 1

CRN 204689-89-4

CMF C23 H42 N2 O4 . Na

Absolute stereochemistry. Rotation (-).





● Na

REFERENCE COUNT:

15

THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1998:136125 HCAPLUS  
DOCUMENT NUMBER: 128:230655

Different Invention (+1)  
102 (a)

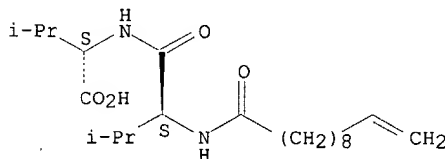
4 dipeptide taught

(40.454mm) RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(effect of amino acid order on chiral sepns. using dipeptide polymd. surfactants)

CM 1

CRN 192448-34-3  
CMF C21 H38 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



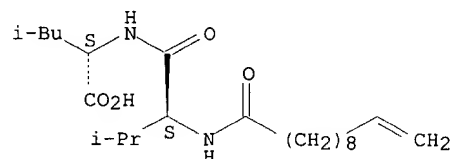
● Na

RN 204689-90-7 HCAPLUS  
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 204689-87-2  
CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



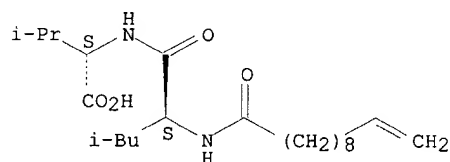
● Na

RN 204689-91-8 HCAPLUS  
CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 204689-88-3  
CMF C22 H40 N2 O4 . Na

Absolute stereochemistry.



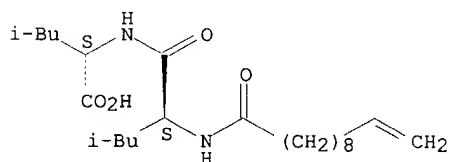
● Na

RN 204689-92-9 HCAPLUS  
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 204689-89-4  
CMF C23 H42 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



● Na

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L22 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:410656 HCAPLUS

8/1/97

DOCUMENT NUMBER: 127:116852

TITLE: Improved Chiral Separations Using a Polymerized Dipeptide Anionic Chiral Surfactant in Electrokinetic Chromatography: Separations of Basic, Acidic, and Neutral Racemates

AUTHOR(S): Shamsi, Shahab A.; Macossay, Javier; Warner, I. M.

CORPORATE SOURCE: Department of Chemistry, Louisiana State University, Baton Rouge, LA, 70803, USA

SOURCE: Analytical Chemistry (1997), 69(15), 2980-2987

CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two polymeric chiral anionic surfactants [poly(sodium N-undecylenoyl-L-valine) (poly-L-SUV) and poly(sodium N-undecylenoyl-L-valine-valine) (poly-L-SUVV)] are compared as pseudostationary phases for chiral sepns. of basic, acidic, and neutral enantiomers. Parameters such as pH, concn. and type of background electrolyte, concn. of polymd. chiral surfactants, and injection size were studied to study the migration behavior and optimize the chiral resolu. of several racemic analytes. At equivalent monomer concns., the migration factors for cationic enantiomers were larger with poly-L-SUV than with poly-L-SUVV. But the reverse was true for anionic enantiomers. However, in both cases, chiral recognition was significantly enhanced with poly-L-SUVV as compared to that with poly-L-SUV. It is interesting to note that the sepn. selectivity and resolu. of a neutral racemate were slightly better with the latter, but only at the expense of longer anal. time and lower efficiencies.

Different inventors (+1, -2)  
102 (a)

1 DIPEPTIDE POLYMER  
↓

POLYMER IT

192448-35-4

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(enantiomer detn. by electrokinetic chromatog. using polymd. dipeptide anionic chiral surfactants as pseudostationary phases)

RN 192448-35-4 HCAPLUS

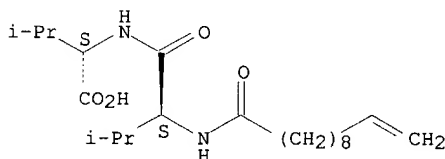
CN L-Valine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 192448-34-3

CMF C21 H38 N2 O4 . Na

Absolute stereochemistry. Rotation (-).



● Na

=&gt; d ibib abs hitstr 1

L23 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:1626 HCAPLUS

TITLE: Polysodium N-Undecanoyl-L-leucylvalinate: A Versatile Chiral Selector for Micellar Electrokinetic Chromatography

AUTHOR(S): Shamsi, Shahab A.; Valle, Bertha C.; Billiot, Fereshteh; Warner, Isiah M.

CORPORATE SOURCE: Department of Chemistry, Louisiana State University, Baton Rouge, LA, 70803, USA

SOURCE: Analytical Chemistry (2003), 75(3), 379-387

CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dipeptide micelle polymers are a new class of polymeric surfactants of which the polysodium undecanoyl-L-leucylvalinate (poly-L-SULV) is a broadly applicable chiral selector for micellar electrokinetic chromatog. This neg. charged dipeptide micelle polymer is a high mol. wt. compd. with large countercurrent mobility, zero crit. micelle concn., low aggregation no., and high soly. in water or water-org. solvents. In an extensive chiral screening program, enantiosepn. of 75 racemic compds. was tested with poly-L-SULV as chiral pseudostationary phase in neutral pH and basic pH background electrolytes. A total of 58 out of 75 racemic compds. could be resolved after choosing an appropriate concn. of poly-L-SULV. Although anionic chiral analytes are difficult to resolve using poly-L-SULV, the percent success rate for chiral resoln. of cationic (77%) and neutral (85%) racemates was very high. Aspects regarding electrostatic, steric, hydrophobic, and hydrogen-bonding interactions of this dipeptide micelle polymer with various classes of chiral analytes are discussed.

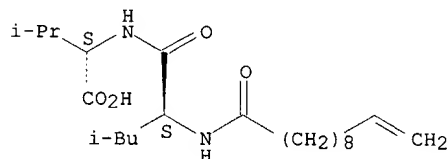
IT 204689-88-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
(in prepn. of polysodium undecanoyl-leucylvalinate)

RN 204689-88-3 HCAPLUS

CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA  
INDEX NAME)

Absolute stereochemistry.



● Na

REFERENCE COUNT:

28

THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L23 ANSWER (2) OF 6 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: (2002) 164136 HCAPLUS

DOCUMENT NUMBER: 136340990

TITLE: Comparison of the Aggregation Behavior of 15 Polymeric and Monomeric Dipeptide Surfactants in Aqueous Solution

AUTHOR(S): Billiot, Fereshteh Haddadian; McCarroll, Matthew; Billiot, Eugene J.; Rugutt, Joseph K.; Morris, Kevin; Warner, Isiah M.

CORPORATE SOURCE: Department of Physical and Life Science, Texas A&amp;M University-Corpus Christi, Corpus Christi, TX, 78412, USA

SOURCE: Langmuir (2002), 18(8), 2993-2997  
CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The aggregation nos. of several chiral dipeptide surfactants were estd. by using fluorescence steady-state quenching techniques. Polymn. of the surfactants with .gamma. radiation resulted in mol. micelles with a lower no. of repeat units than the corresponding monomer aggregation nos. at the concn. of monomer used for polymn. The aggregation nos. of the monomers decreased with increasing size of the N-terminal R group of the dipeptide surfactants. The aggregation mechanism of the dipeptide surfactants was further studied using 1H NMR spectroscopy. The proton resonances due to NH and H.alpha. were measured above and below the crit. micelle concn. of the surfactants. From the differences in proton chem. shifts of the monomeric dipeptide surfactants and aggregation nos., a model for packing of the monomeric polar head is proposed.

IT 192448-34-3 204689-87-2 204689-88-3  
204689-89-4

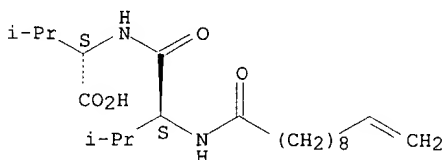
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(comparison of aggregation behaviors of dipeptide surfactant monomers and their photo-polymers in aq. solns.)

RN 192448-34-3 HCAPLUS

CN L-Valine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

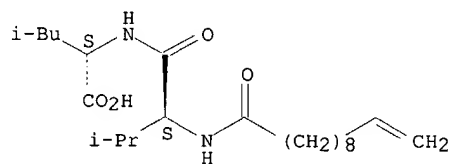


● Na

RN 204689-87-2 HCAPLUS

CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt (9CI) (CA INDEX NAME)

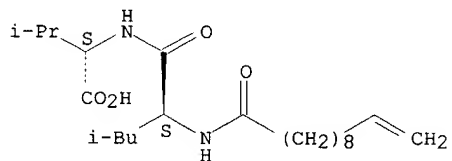
Absolute stereochemistry.



● Na

RN 204689-88-3 HCAPLUS  
CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA  
INDEX NAME)

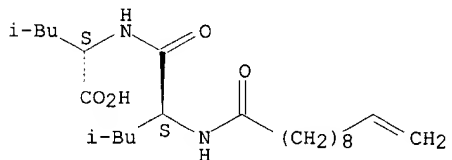
Absolute stereochemistry.



● Na

RN 204689-89-4 HCAPLUS  
CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA  
INDEX NAME)

Absolute stereochemistry. Rotation (-).



● Na

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; d ibib abs hitstr 3

L23 ANSWER (3) OF 6 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:154624 HCAPLUS

DOCUMENT NUMBER: 137:118753

TITLE: Depth of penetration of binaphthyl derivatives into the micellar core of sodium undecenoyl leucyl-leucinate surfactants

AUTHOR(S): Haddadian Billiot, Fereshteh; Billiot, Eugene J.; Warner, Isiah M.

CORPORATE SOURCE: Department of Physical and Life Science, Texas A&amp;M University-Corpus Christi, Corpus Christi, TX, 78412, USA

SOURCE: Journal of Chromatography, A (2002), 950(1-2), 233-239  
CODEN: JCRAEY; ISSN: 0021-9673

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two different diastereomeric forms of sodium N-undecanoyl leucyl-leucinate (SULL) (both L,L and L,D) were used to examine the role of depth of penetration of chiral analytes into the micellar core of polymeric and monomeric surfactants on enantioselectivity. Chiral sepn. of three binaphthyl derivs., i.e. (.+-.)-1,1'-bi-naphthyl-2,2'-diamine (BNA), (.+-.)-1,1'-bi-2-naphthol (BOH), and (.+-.)-1,1'-binaphthyl-2,2'-dihydrogen phosphate (BNP), were studied. Chromatog. results suggest that BNP interacts approx. the same with both the C- and N-terminal amino acid of poly SULL, while the preferential site of interaction of this analyte with the monomeric form of SULL (mono SULL) is at the C-terminal amino acid. This indicates that BNP enantiomers penetrate deeper into the micellar core of the poly SULL than that of the mono SULL. Varying the temp. resulted in a change in the depth of penetration of BNP into the micellar core of the poly SULL. However, the enantiomers of BNA and BOH always interact preferentially with the N-terminal amino acid of SULL surfactants (both polymer and monomer), independent of the temps. studied.

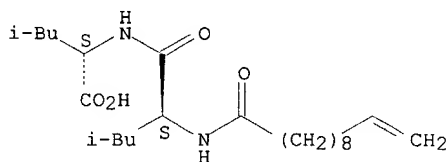
IT 204689-89-4

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(depth of penetration of binaphthyl derivs. into the micellar core of sodium undecenoyl leucyl-leucinate surfactants)

RN 204689-89-4 HCAPLUS

CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



● Na

REFERENCE COUNT:

16

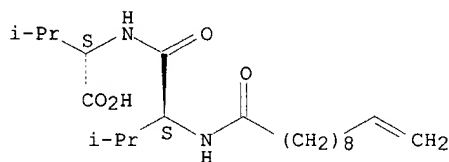
THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



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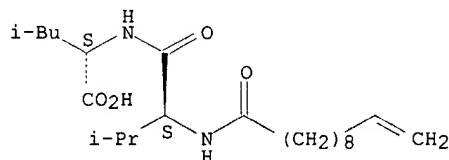
L23 ANSWER (4) OF 6 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2001:520283 HCAPLUS  
 DOCUMENT NUMBER: 135:273204  
 TITLE: Comparison of monomeric and polymeric amino acid based surfactants for chiral separations  
 AUTHOR(S): Billiot, Fereshteh H.; Billiot, Eugene J.; Warner, Isiah M.  
 CORPORATE SOURCE: Department of Physical and Life Sciences, Texas A&M University-Corpus Christi, Corpus Christi, TX, 78412, USA  
 SOURCE: Journal of Chromatography, A (2001), 922(1-2), 329-338  
 CODEN: JCRAEY; ISSN: 0021-9673  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB To better understand chiral recognition with polymeric amino acid based surfactants, the chromatog. performance of 18 monomeric and polymeric surfactants were compared for chiral analytes with various charge states and hydrophobicities. In this study, four amino acids (glycine, L-alanine, L-valine, and L-leucine) were chosen, and all possible combinations of the chiral single amino acid and dipeptide surfactants were synthesized. The results indicate that polymeric surfactants usually provide better chiral resolu. for enantiomers of lorazepam, temazepam, 1,1'-bi-2-naphthol, and propranolol as compared to monomeric surfactants. In contrast, monomers perform better for chiral recognition of the 1,1'-bi-2-naphthyl-2,2'-diyl hydrogenphosphate enantiomers.  
 IT 192448-34-3P 204689-87-2P 204689-88-3P  
 204689-89-4P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and comparison of monomeric and polymeric amino acid based surfactants for chiral sepn.)  
 RN 192448-34-3 HCAPLUS  
 CN L-Valine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 204689-87-2 HCAPLUS  
 CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt (9CI) (CA INDEX NAME)

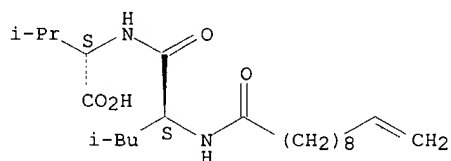
Absolute stereochemistry.



RN 204689-88-3 HCAPLUS  
 CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA INDEX NAME)

INDEX NAME)

Absolute stereochemistry.

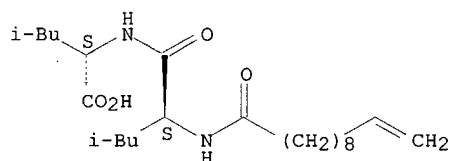


● Na

RN 204689-89-4 HCAPLUS

CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA  
INDEX NAME)

Absolute stereochemistry. Rotation (-).



● Na

REFERENCE COUNT:

25

THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; d ibib abs hitstr 5

L23 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:83984 HCAPLUS

DOCUMENT NUMBER: 132:293993

TITLE: NMR study of the interaction of monomeric and polymeric chiral surfactants with (R)- and (S)-1,1'-binaphthyl-2,2'-diyl hydrogen phosphate  
 AUTHOR(S): Rugutt, Joseph K.; Billiot, Eugene; Warner, Isiah M.  
 CORPORATE SOURCE: Department of Chemistry, Massachusetts College of Liberal Arts, North Adams, MA, 01247-4100, USA  
 SOURCE: Langmuir (2000), 16(7), 3022-3029  
 CODEN: LANGD5; ISSN: 0743-7463  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Chiral discrimination of enantiomers of 1,1'-binaphthyl-2,2'-diyl hydrogen phosphate (BNDHP) by monomeric chiral surfactants (CS), sodium N-undecylenyl-L-valine-L-leucine and sodium N-undecylenyl-L-leucine-L-valine, and related polymers is investigated by high-field one (1D)- and two-dimensional (2D) NMR spectroscopy. A general property of the high-resoln. <sup>1</sup>H NMR spectra of monomeric CS in 90% H<sub>2</sub>O/10% D<sub>2</sub>O is the appearance of downfield well-resolved chem. shift signals corresponding to the alpha (.alpha.H) protons of valine (Val.alpha.H) and leucine (Leu.alpha.H) amino acid residues. The remaining skeletal protons resonate in the region 0.5-2.5 ppm, giving rise to an envelope of poorly resolved chem. shifts. The <sup>1</sup>H NMR signals of (R)- and (S)-BNDHP were enantiomerically sepd. into six sets of peaks in the presence of CS. The conformational anal. by means of nuclear Overhauser effect spectroscopy expts. indicates that the CS mols. adopt folded conformations in aq. soln. The multiple interactions of (S)-BNDHP and CS obtained from intermol. rotating frame Overhauser effect NMR spectroscopy is direct evidence on the mechanism of chiral recognition in aq. media.

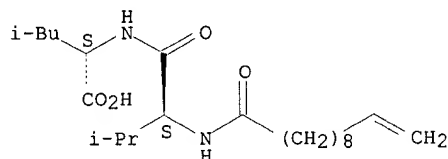
IT 204689-87-2P 204689-88-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (NMR study of chiral recognition between binaphthyldiyl hydrogen phosphate and chiral surfactants)

RN 204689-87-2 HCAPLUS

CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

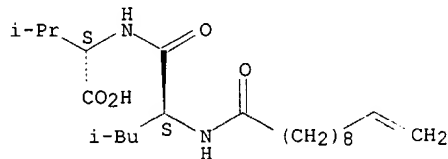


● Na

RN 204689-88-3 HCAPLUS

CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● Na

AUDET 09/876,304

REFERENCE COUNT:

43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L23 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:136125 HCAPLUS

DOCUMENT NUMBER: 128:230655

TITLE: Chiral Separations Using Dipeptide Polymerized

Surfactants: Effect of Amino Acid Order

AUTHOR(S): Billiot, Eugene; Macossay, Javier; Thibodeaux, Stefan;

Shamsi, Shahab A.; Warner, Isiah M.

CORPORATE SOURCE: Department of Chemistry, Louisiana State University,

Baton Rouge, LA, 70803, USA

SOURCE: Analytical Chemistry (1998), 70(7), 1375-1381

CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Chiral sepns. using various polymd. dipeptide surfactants in electrokinetic capillary chromatog. (EKC) are investigated. The two main dipeptide surfactants used in this study were sodium N-undecylenyl-L-valine-L-leucine (L-SUVL), and sodium N-undecylenyl-L-leucine-L-valine (L-SULV). These studies were performed in order to det. if the order of amino acids in dipeptide surfactants is important in terms of chiral recognition and sepns. Both the monomer and the polymer of these two surfactants were compared for the sepn. of two model atropisomers, (.+.-)-1,1'-bi-2-naphthol (BOH) and (.+.-)-1,1'-bi-2-naphthyl-2,2'-diyl hydrogen phosphate (BNP). Some advantages and disadvantages of the polymer relative to the monomer are discussed. Four other surfactants, the polymers of sodium N-undecylenyl-L-leucine-L-leucine (L-SULL), sodium N-undecylenyl-L-valine-L-valine (L-SUVV), sodium N-undecylenyl-L-valine (L-SUV), and sodium N-undecylenyl-L-leucine (L-SUL), were also used in this study, and their performance was compared to that of poly(L-SULV). These data show conclusively that the order of amino acids in dipeptide surfactants has a dramatic effect on chiral recognition. These investigations indicate that poly(L-SULV) provides the best enantioselectivity among the four dipeptide and two single amino acid surfactants for the sepn. of BNP and BOH. The advantages of poly(L-SULV) are demonstrated via the ultrafast sepn. of the enantiomers of BNP and BOH in less than 1 min.

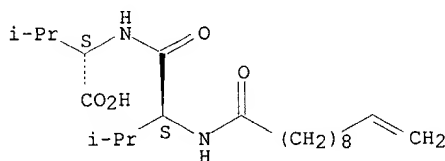
CON  
CL 45

IT 192448-34-3P 204689-87-2P 204689-88-3P  
204689-89-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(effect of amino acid order on chiral sepns. using dipeptide polymd. surfactants)

RN 192448-34-3 HCAPLUS

CN L-Valine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



● Na

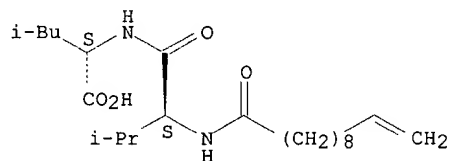
RN 204689-87-2 HCAPLUS

CN L-Leucine, N-(1-oxo-10-undecenyl)-L-valyl-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

[SAME AS REF. #1 JULY 8]

Different Enantiomers (+1)  
102 (a)

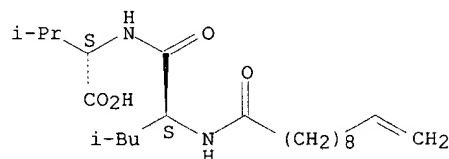


● Na

RN 204689-88-3 HCAPLUS

CN L-Valine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA  
INDEX NAME)

Absolute stereochemistry.

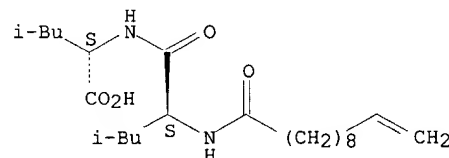


● Na

RN 204689-89-4 HCAPLUS

CN L-Leucine, N-(1-oxo-10-undecenyl)-L-leucyl-, monosodium salt (9CI) (CA  
INDEX NAME)

Absolute stereochemistry. Rotation (-).



● Na

\* (6270640 97  
5770084 94  
6090250 70  
6013738 60  
~~6476046~~ 54  
6271195 50  
6376674 50  
6287765 48  
6437121 47  
5955509 43  
5514818 43  
5981267 42  
6359118 42  
6436909 41  
5268442 41  
4801734 41  
6083372 41  
5292416 40  
5306561 40  
6277782 40  
6333426 40  
6391862 40  
6365173 40  
5192406 39  
6359054 39  
6316613 39  
5807482 39  
5811532 39  
6312900 39  
5772888 38  
5589069 38  
5403898 38  
5877495 38  
6188065 38  
6335525 38  
6258790 38  
6309882 38  
6335194 38  
6410323 38  
4828799 38  
5611903 38  
4909935 37  
6465495 37  
6444723 37  
6218468 37  
6218468 37  
6353012 37  
5889180 36

Wasson et al. 204/451  
" 210/635

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5262313 36  
5246577 36



09876304 CLS

Most Frequently Occurring Classifications of Patents Returned  
From A Search of 09876304 on March 13, 2003

Original Classifications

3 204/451  
3 250/288  
3 435/375  
2 204/454  
2 210/198.2  
2 210/635  
2 435/6  
2 514/44  
2 525/88

Cross-Reference Classifications

9 210/656  
8 536/24.5  
6 536/23.1  
5 210/198.2  
5 210/635  
4 204/601  
4 435/325  
4 435/91.1  
4 536/24.31  
3 210/502.1  
3 435/375  
3 435/6  
3 536/24.3  
2 95/88  
2 204/455  
2 204/605  
2 210/634  
2 435/178  
2 436/161  
2 502/401  
2 514/44  
2 525/241  
2 525/242  
2 525/243  
2 525/262  
2 525/445  
2 525/447  
2 525/451  
2 525/89  
2 528/15  
2 528/25  
2 528/26

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2 528/28  
2 528/29  
2 528/30  
2 528/31  
2 536/103  
2 536/123.1  
2 536/24.1  
2 536/24.33  
2 536/56  
2 556/450

Combined Classifications

9 210/656  
8 536/24.5  
7 210/198.2  
7 210/635  
6 435/375  
6 536/23.1  
5 435/6  
4 204/451  
4 204/601  
4 435/325  
4 435/91.1  
4 514/44  
4 536/24.31  
3 210/502.1  
3 210/634  
3 250/288  
3 528/25  
3 536/103  
3 536/24.3  
2 95/88  
2 204/454  
2 204/455  
2 204/605  
2 424/426  
2 435/178  
2 436/161  
2 502/401  
2 525/241  
2 525/242  
2 525/243  
2 525/262  
2 525/445  
2 525/447  
2 525/451  
2 525/88  
2 525/89

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2 528/15  
2 528/26  
2 528/28  
2 528/29  
2 528/30  
2 528/31  
2 536/123.1  
2 536/127  
2 536/24.1  
2 536/24.33  
2 536/56  
2 556/450

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Titles of Most Frequently Occurring Classifications of Patents Returned

From A Search of 09876304 on March 13, 2003

9 210/656 (0 OR, 9 XR)  
 Class 210 : LIQUID PURIFICATION OR SEPARATION  
 210/600 PROCESSES  
 210/656 .Chromatography

8 536/24.5 (0 OR, 8 XR)  
 Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES  
 536/1.11 .Carbohydrates or derivatives  
 536/18.7 ..Nitrogen containing  
 536/22.1 ...N-glycosides, polymers thereof, metal  
 derivatives (e.g., nucleic acids, oligonucleotides, etc.)

536/23.1 ....DNA or RNA fragments or modified forms  
 thereof (e.g., genes, etc.)  
 536/24.5 .....Nucleic acid expression inhibitors

7 210/198.2 (2 OR, 5 XR)  
 Class 210 : LIQUID PURIFICATION OR SEPARATION  
 210/198.1 WITH MEANS TO ADD TREATING MATERIAL  
 210/198.2 .Chromatography

7 210/635 (2 OR, 5 XR)  
 Class 210 : LIQUID PURIFICATION OR SEPARATION  
 210/600 PROCESSES  
 210/634 .Liquid/liquid solvent or colloidal extraction  
 or diffusing or passing through septum selective as to  
 material of a component of liquid; such diffusing or  
 passing being effected by other than only an ion exchange  
 or sorption process  
 210/635 ..Liquid/liquid or gel type (i.e., jellylike)  
 chromatography

6 435/375 (3 OR, 3 XR)  
 Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY  
 435/325 ANIMAL CELL, PER SE (E.G., CELL LINES, ETC.);  
 COMPOSITION THEREOF; PROCESS OF PROPAGATING, MAINTAINING OR



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HEREOF; PROCESS

OR COMPOSITION

N CONTAINING AN

PRESERVING AN ANIMAL CELL OR COMPOSITION T

OF ISOLATING OR SEPARATING AN ANIMAL CELL

THEREOF; PROCESS OF PREPARING A COMPOSITIO

ANIMAL CELL; CULTURE MEDIA THEREFORE

435/375 .Method of regulating cell metabolism or  
physiology

6 536/23.1 (0 OR, 6 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/18.7 ..Nitrogen containing

536/22.1 ...N-glycosides, polymers thereof, metal  
derivatives (e.g., nucleic acids, oligonuc

leotides, etc.)

536/23.1 ....DNA or RNA fragments or modified forms  
thereof (e.g., genes, etc.)

5 435/6 (2 OR, 3 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/4 MEASURING OR TESTING PROCESS INVOLVING ENZYMES  
OR MICRO-ORGANISMS; COMPOSITION OR TEST ST

RIP THEREFORE;

PROCESSES OF FORMING SUCH COMPOSITION OR T

EST STRIP

435/6 .Involving nucleic acid

4 204/451 (3 OR, 1 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/450 .Electrophoresis or electro-osmosis processes  
and electrolyte compositions therefor when

not provided for

elsewhere

204/451 ..Capillary electrophoresis

4 204/601 (0 OR, 4 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/193 APPARATUS

204/600 .Electrophoretic or electro-osmotic apparatus

204/601 ..Capillary electrophoresis type

4 435/325 (0 OR, 4 XR)

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Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/325 ANIMAL CELL, PER SE (E.G., CELL LINES, ETC.);  
COMPOSITION THEREOF; PROCESS OF PROPAGATING  
, MAINTAINING OR  
PRESERVING AN ANIMAL CELL OR COMPOSITION TH  
EREOF; PROCESS  
OF ISOLATING OR SEPARATING AN ANIMAL CELL O  
R COMPOSITION  
THEREOF; PROCESS OF PREPARING A COMPOSITION  
CONTAINING AN  
ANIMAL CELL; CULTURE MEDIA THEREFORE

4 435/91.1 (0 OR, 4 XR)

Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY

435/41 MICRO-ORGANISM, TISSUE CELL CULTURE OR ENZYME  
USING PROCESS TO SYNTHESIZE A DESIRED  
CHEMICAL COMPOUND OR  
COMPOSITION

435/72 .Preparing compound containing saccharide  
radical

435/84 ..Preparing nitrogen-containing saccharide

435/85 ...N-glycoside

435/89 ....Nucleotide

435/91.1 .....Polynucleotide (e.g., nucleic acid,  
oligonucleotide, etc.)

4 514/44 (2 OR, 2 XR)

Class 514 : DRUG, BIO-AFFECTING AND BODY TREATING  
COMPOSITIONS

514/1 DESIGNATED ORGANIC ACTIVE INGREDIENT CONTAININ

G

(DOAI)

514/23 .Carbohydrate (i.e., saccharide radical  
containing) DOAI

514/42 ..N-glycoside

514/43 ...Nitrogen containing hetero ring

514/44 ....Polynucleotide (e.g., RNA, DNA, etc.)

4 536/24.31 (0 OR, 4 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/18.7 ..Nitrogen containing

536/22.1 ...N-glycosides, polymers thereof, metal  
derivatives (e.g., nucleic acids, oligon

ucleotides, etc.)

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536/23.1 .....DNA or RNA fragments or modified forms  
 thereof (e.g., genes, etc.)  
 536/24.3 .....Probes for detection of specific  
 nucleotide sequences or primers for the sy  
 nthesis of DNA or  
 RNA  
 536/24.31 .....Probes for detection of animal nucleotid  
 e  
 sequences

3 210/502.1 (0 OR, 3 XR)  
 Class 210 : LIQUID PURIFICATION OR SEPARATION  
 210/348 FILTER  
 210/500.1 .Material  
 210/502.1 ..Sorpative component containing

3 210/634 (1 OR, 2 XR)  
 Class 210 : LIQUID PURIFICATION OR SEPARATION  
 210/600 PROCESSES  
 210/634 .Liquid/liquid solvent or colloidal extraction  
 or diffusing or passing through septum sele  
 ctive as to  
 material of a component of liquid; such dif  
 fusing or  
 passing being effected by other than only a  
 n ion exchange  
 or sorption process

3 250/288 (3 OR, 0 XR)  
 Class 250 : RADIANT ENERGY  
 250/281 IONIC SEPARATION OR ANALYSIS  
 250/288 .With sample supply means

3 528/25 (1 OR, 2 XR)  
 Class 528 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES  
 528/10 .FROM SILICON REACTANT HAVING AT LEAST ONE  
 SILICON-TO-HYDROGEN OR -CARBON BOND  
 528/25 ..With organic silicon-free reactant

3 536/103 (1 OR, 2 XR)  
 Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES  
 536/1.11 .Carbohydrates or derivatives  
 536/102 ..Starch or derivative  
 536/103 ...Dextrin or derivative



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3 536/24.3 (0 OR, 3 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/18.7 ..Nitrogen containing

536/22.1 ...N-glycosides, polymers thereof, metal  
derivatives (e.g., nucleic acids, oligonu

cleotides, etc.)

536/23.1 ....DNA or RNA fragments or modified forms  
thereof (e.g., genes, etc.)536/24.3 .....Probes for detection of specific  
nucleotide sequences or primers for the syn

thesis of DNA or

RNA

2 95/88 (0 OR, 2 XR)

Class 095 : GAS SEPARATION: PROCESSES  
95/82 CHROMATOGRAPHY95/88 .Specific column packing or sorbent material  
(e.g., particle size, composition, etc.)

2 204/454 (2 OR, 0 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/450 .Electrophoresis or electro-osmosis processes  
and electrolyte compositions therefor whe

n not provided for

elsewhere

204/451 ..Capillary electrophoresis

204/454 ...With adjustment or alteration of  
electro-osmotic bulk flow

2 204/455 (0 OR, 2 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/450 .Electrophoresis or electro-osmosis processes  
and electrolyte compositions therefor whe

n not provided for

elsewhere

204/451 ..Capillary electrophoresis

204/455 ...Using gel-filled capillary

2 204/605 (0 OR, 2 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY  
204/193 APPARATUS

204/600 .Electrophoretic or electro-osmotic apparatus

204/601 ..Capillary electrophoresis type

204/605 ...Gel filled

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2 424/426 (1 OR, 1 XR)  
 Class 424 : DRUG, BIO-AFFECTING AND BODY TREATING  
 COMPOSITIONS  
 424/400 PREPARATIONS CHARACTERIZED BY SPECIAL PHYSICAL  
 FORM  
 424/422 .Implant or insert  
 424/423 ..Surgical implant or material  
 424/426 ...Errodable, resorbable, or dissolving

2 435/178 (0 OR, 2 XR)  
 Class 435 : CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY  
 435/174 CARRIER-BOUND OR IMMOBILIZED ENZYME OR  
 MICROBIAL CELL; CARRIER-BOUND OR IMMOBILI  
 ZED CELL;  
 PREPARATION THEREOF  
 435/177 .Enzyme or microbial cell is immobilized on or  
 in an organic carrier  
 435/178 ..Carrier is carbohydrate

2 436/161 (0 OR, 2 XR)  
 Class 436 : CHEMISTRY: ANALYTICAL AND IMMUNOLOGICAL  
 TESTING  
 436/161 INCLUDING CHROMATOGRAPHY

2 502/401 (0 OR, 2 XR)  
 Class 502 : CATALYST, SOLID SORBENT, OR SUPPORT THEREFOR:  
 PRODUCT OR PROCESS OF MAKING  
 502/400 SOLID SORBENT  
 502/401 .Organic

2 525/241 (0 OR, 2 XR)  
 Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES  
 525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
 OF SOLID POLYMER OR SICP WITH SICP OR SP  
 FI; MIXING OF SICP  
 POLYMER WITH A  
 PROCESSES OF  
 FORMING OR REACTING; OR THE RESULTANT PR  
 ODUCT OF ANY OF THE  
 ABOVE OPERATIONS  
 525/55 ..At least one solid polymer derived from  
 ethylenic reactants only  
 525/191 ...Polymer mixture of two or more solid

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rated reactants  
with a chemical  
f preparing any  
only; or mixtures of said polymer mixture  
treating agent; or products or processes o  
of the above mixtures

525/241 ....Solid polymer derived from an aromatic  
hydrocarbon reactant

2 525/242 (0 OR, 2 XR)

Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES

525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR SPF

I; MIXING OF SICP

POLYMER WITH A

PROCESSES OF

DUCT OF ANY OF THE

WITH AN ETHYLENIC AGENT; MIXING OF SOLID

CHEMICAL TREATING OR ETHYLENIC AGENT; OR

FORMING OR REACTING; OR THE RESULTANT PRO

ABOVE OPERATIONS

525/55 ..At least one solid polymer derived from  
ethylenic reactants only

525/242 ...Polymer derived from ethylenic reactants  
only mixed with ethylenic reactant

2 525/243 (0 OR, 2 XR)

Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES

525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR SP

FI; MIXING OF SICP

POLYMER WITH A

PROCESSES OF

ODUCT OF ANY OF THE

WITH AN ETHYLENIC AGENT; MIXING OF SOLID

CHEMICAL TREATING OR ETHYLENIC AGENT; OR

FORMING OR REACTING; OR THE RESULTANT PR

ABOVE OPERATIONS

525/55 ..At least one solid polymer derived from  
ethylenic reactants only

525/242 ...Polymer derived from ethylenic reactants  
only mixed with ethylenic reactant

525/243 ....Reactions with ethylenic reactants in two  
or more diverse phases, e.g., bulk, emulsio

n, melt,

09876304\_CLSTITLES  
solution, etc.

2 525/262 (0 OR, 2 XR)  
Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES  
525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR S  
PFI; MIXING OF SICP  
D POLYMER WITH A  
R PROCESSES OF  
RODUCT OF ANY OF THE  
ABOVE OPERATIONS  
525/55 ..At least one solid polymer derived from  
ethylenic reactants only  
525/242 ...Polymer derived from ethylenic reactants  
only mixed with ethylenic reactant  
525/244 ....Contacting a solid polymer derived from  
ethylenic reactants only with an ethylenic  
reactant in the  
presence of a specified material  
525/262 .....Specified material contains a carboxylic  
acid or derivative

2 525/445 (0 OR, 2 XR)  
Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES  
525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR S  
PFI; MIXING OF SICP  
D POLYMER WITH A  
R PROCESSES OF  
RODUCT OF ANY OF THE  
ABOVE OPERATIONS  
525/418 ..Solid polymer derived from at least one  
carboxylic acid or derivative  
525/419 ...Solid polymer derived from at least one  
lactam; from an amino carboxylic acid or  
derivative; or  
from a polycarboxylic acid or derivative  
525/437 ....Solid polymer derived from polyhydroxy  
reactant and polycarboxylic acid or deriva  
tive reactant; or

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carboxylic acid derived from di- or higher ester of a poly  
as sole reactant

525/445 .....Mixed with ethylenically unsaturated  
reactant or polymer therefrom

2 525/447 (0 OR, 2 XR)

Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES

525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR S

PFI; MIXING OF SICP

WITH AN ETHYLENIC AGENT; MIXING OF SOLI

D POLYMER WITH A

CHEMICAL TREATING OR ETHYLENIC AGENT; O

R PROCESSES OF

FORMING OR REACTING; OR THE RESULTANT P

RODUCT OF ANY OF THE

ABOVE OPERATIONS

525/418 ..Solid polymer derived from at least one  
carboxylic acid or derivative

525/419 ...Solid polymer derived from at least one  
lactam; from an amino carboxylic acid or

derivative; or

from a polycarboxylic acid or derivative

525/437 ....Solid polymer derived from polyhydroxy  
reactant and polycarboxylic acid or deriva

tive reactant; or

derived from di- or higher ester of a poly

carboxylic acid

as sole reactant

525/447 .....Solid polymer derived from polycarboxylic  
acid or derivative and a polyhydroxy compou

nd derived from

reactant containing ethylenic unsaturation

2 525/451 (0 OR, 2 XR)

Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES

525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR SPF

I; MIXING OF SICP

WITH AN ETHYLENIC AGENT; MIXING OF SOLID

POLYMER WITH A

CHEMICAL TREATING OR ETHYLENIC AGENT; OR

PROCESSES OF

FORMING OR REACTING; OR THE RESULTANT PRO

DUCT OF ANY OF THE

09876304\_CLSTITLES

ABOVE OPERATIONS

525/418 ..Solid polymer derived from at least one  
carboxylic acid or derivative  
525/451 ...Solid polymer derived from carboxylic acid  
or derivative derived from ethylenically un  
saturated  
reactant

2 525/88 (2 OR, 0 XR)

Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES

525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR SPF  
I; MIXING OF SICP  
POLYMER WITH A  
PROCESSES OF  
DUCT OF ANY OF THE

ABOVE OPERATIONS

525/55 ..At least one solid polymer derived from  
ethylenic reactants only  
525/88 ...Mixing of solid block or block-type  
copolymer with other solid polymer; mixing  
of said polymer  
mixture with a chemical treating agent; mix  
ing of a block  
or block-type copolymer with SICP or with S  
PFI; or  
processes of forming or reacting; or the re  
sultant product  
of any of the above operations

2 525/89 (0 OR, 2 XR)

Class 525 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
OF THE CLASS 520 SERIES

525/50 .MIXING OF TWO OR MORE SOLID POLYMERS; MIXING  
OF SOLID POLYMER OR SICP WITH SICP OR SP  
FI; MIXING OF SICP  
POLYMER WITH A  
PROCESSES OF  
ODUCT OF ANY OF THE

ABOVE OPERATIONS

525/55 ..At least one solid polymer derived from

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ethylenic reactants only  
 525/88 ...Mixing of solid block or block-type  
 of said polymer copolymer with other solid polymer; mixing  
 mixture with a chemical treating agent; mi  
 xing of a block or block-type copolymer with SICP or with  
 SPFI; or processes of forming or reacting; or the r  
 esultant product of any of the above operations  
 525/89 ....Mixture contains two or more solid block o  
 r block-type copolymers

2 528/15 (0 OR, 2 XR)  
 Class 528 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES  
 528/10 .FROM SILICON REACTANT HAVING AT LEAST ONE  
 SILICON-TO-HYDROGEN OR -CARBON BOND  
 528/12 ..Polymerizing in the pressence of a specified  
 material other than a reactant  
 528/14 ...Material is a metal-containing material  
 528/15 ....Material contains a Group VIII metal atom

2 528/26 (0 OR, 2 XR)  
 Class 528 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES  
 528/10 .FROM SILICON REACTANT HAVING AT LEAST ONE  
 SILICON-TO-HYDROGEN OR -CARBON BOND  
 528/25 ..With organic silicon-free reactant  
 528/26 ...Organic Si-free reactant is a carboxylic  
 acid or derivative

2 528/28 (0 OR, 2 XR)  
 Class 528 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES  
 528/10 .FROM SILICON REACTANT HAVING AT LEAST ONE  
 SILICON-TO-HYDROGEN OR -CARBON BOND  
 528/25 ..With organic silicon-free reactant  
 528/28 ...Organic Si-free reactant is a  
 nitrogen-containing compound

2 528/29 (0 OR, 2 XR)  
 Class 528 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES  
 528/10 .FROM SILICON REACTANT HAVING AT LEAST ONE

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SILICON-TO-HYDROGEN OR -CARBON BOND

528/25 ..With organic silicon-free reactant  
 528/29 ...Organic Si-free reactant is an alcohol or  
 alcoholate

2 528/30 (0 OR, 2 XR)

Class 528 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES

528/10 .FROM SILICON REACTANT HAVING AT LEAST ONE  
 SILICON-TO-HYDROGEN OR -CARBON BOND

528/30 ..From silicon-containing reactant having at  
 least one polyvalent atom other than carbon

, oxygen, or

nitrogen

2 528/31 (0 OR, 2 XR)

Class 528 : SYNTHETIC RESINS OR NATURAL RUBBERS -- PART  
 OF THE CLASS 520 SERIES

528/10 .FROM SILICON REACTANT HAVING AT LEAST ONE  
 SILICON-TO-HYDROGEN OR -CARBON BOND

528/31 ..Silicon reactant contains a  
 silicon-to-hydrogen bond

2 536/123.1 (0 OR, 2 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/123.1 ..Polysaccharides

2 536/127 (1 OR, 1 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/124 ..Processes

536/127 ...Purification or recovery

2 536/24.1 (0 OR, 2 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/18.7 ..Nitrogen containing

536/22.1 ...N-glycosides, polymers thereof, metal  
 derivatives (e.g., nucleic acids, oligonu

cleotides, etc.)

536/23.1 ....DNA or RNA fragments or modified forms  
 thereof (e.g., genes, etc.)

536/24.1 ....Non-coding sequences which control



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transcription or translation processes (e.g  
 ., promoters,  
 operators, enhancers, ribosome binding site  
 s, etc.)

2 536/24.33 (0 OR, 2 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/18.7 ..Nitrogen containing

536/22.1 ...N-glycosides, polymers thereof, metal  
 derivatives (e.g., nucleic acids, oligon

ucleotides, etc.)

536/23.1 ....DNA or RNA fragments or modified forms  
 thereof (e.g., genes, etc.)

536/24.3 .....Probes for detection of specific  
 nucleotide sequences or primers for the sy

ntthesis of DNA or

RNA

536/24.33 .....Primers

2 536/56 (0 OR, 2 XR)

Class 536 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES

536/1.11 .Carbohydrates or derivatives

536/56 ..Cellulose or derivative

2 556/450 (0 OR, 2 XR)

Class 556 : ORGANIC COMPOUNDS -- PART OF THE CLASS  
 532-570 SERIES

556/400 .SILICON CONTAINING

556/450 ..Two silicons bonded directly to the same  
 oxygen

abstract 1  
acc 1  
acceptor 1  
achievable 1  
acid 8  
acidic 1  
acids 1  
active 2  
activity 1  
addition 3  
additives 1  
administration 1  
adsorbents 1  
advantage 1  
against 1  
agents 1  
aggregates 5  
aggregation 1  
agricultural 1  
al 14  
alanine 1  
aldrich 1  
all 1  
allowed 1  
allowing 1  
alp 3  
alprenolol 2  
also 6  
although 1  
amino 8  
amphophilic 1  
an 11  
anal 9  
analogues 1  
analyses 1  
analytes 2  
analytical 3  
and 69  
andm 1  
andpoly 1  
andy 1  
anionic 2  
another 2  
anthryl 2  
application 2  
applications 2  
approach 1  
appropriate 2

aqueous 4  
are 15  
armstrong 2  
art 1  
as 16  
assigned 1  
associate 2  
associated 3  
asterisk 1  
at 6  
attached 2  
attractive 1  
attributable 1  
averages 1  
background 1  
baczuk 1  
based 2  
basic 1  
be 19  
because 5  
been 7  
behavior 2  
behaviors 1  
being 1  
beneficial 2  
better 2  
between 11  
bge 1  
bilayer 1  
bile 1  
bilhiot 1  
binaphthyl 2  
bnp 3  
bond 2  
bonding 1  
bonds 1  
both 7  
brief 1  
brush 1  
buffers 1  
by 17  
called 2  
calories 1  
can 7  
capillaries 1  
capillary 14  
carboxyl 2  
carriers 2

case 1  
catalysis 1  
category 1  
cationic 1  
causes 1  
cellulose 1  
center 2  
centers 1  
central 1  
certain 3  
chain 1  
challenging 1  
characteristic 1  
characterization 1  
charge 1  
charged 1  
chelating 1  
chem 14  
chemical 1  
chemistry 1  
chiral 80  
chromatog 9  
chromatograms 2  
chromatographia 1  
chromatographic 4  
chromatography 18  
cmc 5  
co 1  
column 1  
common 1  
commonly 3  
commun 1  
compact 1  
company 1  
comparable 1  
comparative 1  
compared 5  
comparing 2  
comparison 1  
complex 3  
complexation 1  
complexes 3  
complexing 1  
complicated 1  
components 1  
compositions 1  
compound 1  
compounds 2

concentration 8  
concentrations 2  
configuration 1  
considerable 1  
considerations 1  
contain 1  
containing 3  
contains 1  
continue 1  
continuing 1  
contrast 4  
control 1  
conventional 11  
corisiderable 1  
covalent 1  
critical 3  
crown 2  
ct 1  
current 1  
cyclodextrin 2  
cyclodextrins 2  
deeply 1  
degree 2  
deleterious 2  
density 1  
dependent 1  
depict 2  
depicts 4  
derivatized 1  
derived 1  
description 1  
design 1  
desired 1  
determines 1  
developed 1  
development 1  
diagram 1  
difference 3  
different 1  
differing 1  
dihydroxyphenylalanine 2  
dipeptide 6  
dipeptides 1  
disclose 2  
disclosed 1  
discloses 2  
disclosure 1  
disclosures 1

discovered 1  
discriminate 1  
discussion 1  
distinct 1  
diyl 2  
dna 1  
do 4  
dobashi 2  
donor 1  
dopa 1  
double 1  
down 1  
drawings 1  
drug 1  
drugs 3  
due 3  
dynamic 8  
early 4  
easier 2  
ed 1  
effect 1  
effects 2  
efficacy 1  
efficiencies 3  
effort 1  
efforts 1  
either 2  
ek 8  
electrochemical 1  
electrokinetic 15  
electrolytes 1  
electromigration 1  
electron 1  
electrophoresis 5  
electrophoretic 2  
electrostatic 1  
eliminate 3  
ellipsoid 1  
employ 1  
employed 1  
employing 3  
employs 1  
emulsion 2  
enantiomer 2  
enantiomeric 5  
enantiomers 12  
enantioselective 1  
enantioselectivity 1

end 1  
energies 1  
enhance 1  
enhanced 5  
enhancing 1  
enoyl 3  
enrichment 2  
equilibria 1  
equilibrium 3  
equilibriumbetween 1  
essentially 1  
et 19  
eta 1  
ethanol 2  
ethers 2  
eugene 1  
evaluated 2  
evaluation 1  
even 2  
examine 1  
example 6  
exchange 2  
exhibit 2  
exist 2  
expense 1  
experiments 2  
explainedby 1  
express 8  
extensively 1  
exterior 1  
extraction 3  
factors 1  
faster 2  
fee 1  
fendler 1  
figure 5  
figures 3  
file 1  
first 2  
fl 2  
food 1  
for 26  
form 7  
formation 2  
formed 2  
formulations 1  
free 2  
frequently 2

from 11  
froma 1  
funded 1  
furthermore 1  
gas 2  
gassmann 1  
gave 1  
general 2  
generate 1  
generated 2  
generation 1  
gives 1  
glutamic 2  
gm 1  
governing 1  
government 2  
grade 1  
grant 1  
greater 1  
greatly 2  
group 3  
groups 4  
growing 1  
guest 1  
hamada 1  
harmful 1  
has 6  
have 14  
having 4  
head 1  
health 1  
heat 4  
high 11  
higher 1  
host 1  
how 1  
however 2  
hplc 1  
hpo 1  
human 1  
hydrocarbon 2  
hydrogen 3  
hydrophilic 2  
hydrophobic 4  
identical 5  
if 1  
ij 1  
illustrate 1



illustration 1  
image 2  
immobilized 2  
immunodeficiency 1  
important 4  
improved 2  
in 55  
include 1  
included 1  
including 1  
increasingly 1  
individual 5  
induced 1  
industries 1  
inert 1  
inexpensive 1  
initial 2  
institutes 1  
interaction 1  
interactions 12  
interfere 1  
interior 2  
intermolecular 1  
into 1  
invention 3  
involved 1  
ion 3  
ionizable 1  
ions 3  
is 22  
ishihama 1  
isiah 1  
isomer 1  
isomeric 1  
isomers 3  
issue 1  
issued 1  
it 1  
its 1  
japanese 1  
known 2  
kuhn 1  
large 1  
larrabee 1  
late 1  
later 1  
least 2  
lec 3

lett 1  
leydet 1  
ligand 2  
ligands 5  
like 1  
liq 1  
liquid 8  
lo 3  
louis 1  
low 1  
lower 1  
magnified 1  
mail 8  
manufacturing 1  
many 5  
manyareas 1  
marketed 1  
marketing 1  
mass 2  
materials 5  
may 10  
meaning 1  
measurements 1  
mecc 1  
mechanical 2  
med 1  
media 1  
medicinally 1  
medium 2  
membrane 1  
membranes 1  
metal 2  
methionyl 1  
method 1  
methods 5  
micellar 13  
micelle 15  
micelles 52  
microenvironment 1  
milwaukee 1  
minimize 1  
minimum 1  
mirror 2  
miscellaneous 1  
mixed 1  
mixture 5  
mixtures 6  
mo 1

mobile 2  
mobilities 1  
model 1  
molar 1  
mole 1  
molecules 5  
monoanions 1  
monomeric 1  
monomers 6  
monomolecular 2  
mono peptide 2  
more 3  
most 3  
much 2  
multicomponent 1  
must 3  
na 2  
namely 1  
national 1  
natural 1  
naturally 4  
need 2  
neutral 1  
new 1  
no 12  
non 6  
nonionic 1  
not 3  
novel 1  
novotny 1  
now 2  
number 3  
obtained 3  
occurring 4  
of 88  
ofan 1  
ofchiral 1  
ofenantiomeric 1  
ofn 1  
ofpurposes 1  
often 7  
oftroublesome 1  
oligomerized 1  
oligopeptide 4  
on 6  
one 10  
open 2  
optical 6

optimized 3  
or 15  
order 2  
organic 4  
other 7  
otherwise 8  
otsuka 1  
over 1  
overall 1  
paid 1  
paleos 1  
palmer 2  
partially 1  
particularly 2  
partitioning 1  
patent 2  
penetrate 1  
peptide 1  
per 1  
perform 1  
performance 2  
pertains 1  
ph 1  
pharmaceutical 2  
pharmaceutically 1  
phase 11  
phases 1  
phenylalanyl 1  
phosphate 2  
phys 1  
pirkie 2  
plates 1  
point 4  
polar 2  
poly 13  
polyanions 3  
polyl 1  
polymenzed 2  
polymer 1  
polymeric 6  
polymerizable 1  
polymerization 2  
polymerized 34  
polymerizedmicellarmediumbyextractionwith 1  
polymers 1  
polyrnerized 1  
polysaccharides 1  
poor 1

power 2  
pp 21  
predominantly 1  
preparative 2  
prior 1  
problems 1  
process 2  
prolyl 1  
prop 3  
propanolol 1  
properties 7  
property 1  
proposed 1  
propranolol 1  
proteins 1  
protocols 1  
prototype 1  
provides 1  
pseudostationary 2  
purchased 1  
racemic 10  
radiation 1  
rates 1  
readily 2  
reagent 1  
received 1  
recently 2  
recognition 6  
recommends 1  
recovered 2  
recovering 2  
recovery 2  
reduced 1  
reduces 1  
reflectingpractical 1  
regardless 1  
regulations 1  
relatively 1  
reported 2  
represents 2  
repulsion 1  
requir 1  
required 1  
res 3  
resolution 2  
resolving 2  
respectively 3  
result 2

resulting 3  
results 1  
reversible 1  
review 1  
rights 1  
rigid 1  
rigidity 1  
rna 1  
rod 1  
roughly 1  
rule 5  
salt 1  
same 1  
saponins 1  
scale 5  
schematic 2  
schematically 1  
sci 1  
science 2  
second 1  
see 10  
selective 1  
selectivities 1  
separate 1  
separated 2  
separating 1  
separation 25  
separations 23  
serial 1  
series 1  
shahab 1  
shamsi 1  
shape 1  
shown 1  
sigma 2  
significant 1  
similar 1  
simple 2  
simplifying 1  
simultaneous 2  
single 2  
site 3  
size 1  
small 4  
smaller 1  
so 1  
soc 1  
sodium 3

sodiumn 2  
solute 5  
solution 6  
solutions 2  
solvation 1  
solvent 5  
solvents 1  
some 2  
species 1  
spectroscopic 1  
sphere 1  
spheroid 1  
st 1  
stability 1  
stable 1  
standard 1  
state 1  
states 2  
stationary 5  
stefan 1  
stereochemically 1  
steric 1  
strategies 3  
stronger 2  
structural 1  
structure 4  
studies 1  
substrate 1  
success 1  
successful 1  
successfully 1  
such 4  
sum 1  
superior 1  
surfactant 17  
surfactants 16  
surprising 1  
surrounding 1  
suv 5  
suvv 5  
synthesized 1  
synthesizing 1  
synthetic 1  
systems 6  
tabor 1  
taguchi 1  
tail 1  
takes 1

technique 1  
techniques 3  
terabe 5  
tests 1  
tfae 3  
thalidomide 1  
than 6  
that 9  
the 119  
their 4  
theoretical 1  
there 3  
therefore 3  
these 4  
they 1  
thibodeaux 1  
this 5  
those 2  
three 7  
through 3  
thumb 1  
thus 2  
time 2  
to 35  
today 1  
transfer 2  
trifluoro 2  
troublesome 1  
tubular 2  
turn 1  
turned 1  
two 8  
type 4  
typically 5  
undec 2  
undecenoate 2  
undecw 1  
undecylate 1  
undecylenyl 2  
undesirable 1  
united 2  
unsaturated 1  
until 1  
use 7  
used 18  
useful 2  
uses 1  
using 7



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usually 2  
utilization 1  
valine 5  
valme 1  
value 1  
values 1  
variety 1  
very 1  
vesicles 1  
via 1  
virus 1  
viruses 1  
vol 20  
wang 2  
ward 1  
warner 3  
was 5  
water 2  
we 1  
weighted 1  
were 6  
when 2  
which 5  
while 1  
whose 1  
wi 1  
will 1  
with 24  
within 1  
wool 1